

BLOCK SIGNALS

This chapter covers track permits within ABS territory, movement and protection of trains on main track, rules governing the block system, and rules within centralized traffic control limits.

TRACK PERMITS WITHIN ABS TERRITORY

Rule S-250. Track Permit. When authorized by special instructions, between specified points, a train may occupy a main track on the authority of a track permit issued by designated personnel under the direction of the train dispatcher. Trains may move in either direction without flag protection during the effective time and within the limits of the track permit.

A track permit may be issued only when it is known that the limits are clear. Limits may be entered only on proceed indication of controlled signal or upon verbal authority of the person granting the permit. If a train enters limits on a signal other than a proceed indication of block or interlocking signal, signals protecting the limits must display Stop indication for at least 5 minutes before occupying the limits.

Signals are arranged to show that limits are protected by Stop indication of blocks or interlocking signals while the limits are occupied. No other movement is permitted into the limits. Track permit limits

must be continuously occupied or main track switch left open. Personnel requesting track permit must repeat it and receive "OK" before it is acted upon.

Personnel granting track permit must record it on the prescribed form. Not more than one track permit may be in effect at any time within the same limits. A train must be clear of the limits before the time expires or flag protection must be provided in each direction.

MOVEMENT OF TRAINS WITH THE CURRENT OF TRAFFIC ON A MAIN TRACK

Rule 251. Movements Governed. Within defined limits on designated tracks specified in the timetable, or by special instructions, trains will run with the current of traffic governed by block signals without regard to timetable superiority. The train dispatcher will issue verbal and message instructions.

PROTECTION ON MAIN TRACKS WHERE CURRENT OF TRAFFIC HAS BEEN ESTABLISHED

Rule 252. Track Permit. When authorized by special instructions between specific points within territory where the current of traffic has been established, a train, track car, machine, or personnel may occupy a main track or tracks on authority of track permit. The track permit is issued by a designated control operator under the direction of the train dispatcher. The train, track car, machine, or personnel may then move in either direction on such tracks within the limits during

the effective time of the track permit without train order authority or flag protection.

A track permit is issued only when the limits are clear or occupied by train, track car, machine, or personnel granted track permit and where the limits can be protected by controlled signals. The designated control operator must ensure that each of the signals used to protect the limits has been set to display Stop indicators; that marking or blocking devices have been applied to prevent displaying signals for movement into the limits; and that any other control operator who controls the signals used to protect the limits has acknowledged understanding of the protection order.

Marking or blocking devices must not be removed, or movement into the limits permitted, until limits have been cleared or released to the control operator. The person requesting a track permit must repeat it and receive "OK" before it is acted upon. The control operators will record the track permits on the prescribed form.

Track permit limits must be cleared and reported clear to the control operator before time expires. If the track permit is to be released before the time expires, all equipment must be clear of limits and that fact reported to the designated control operator. If no other track permit has been granted within the same limits, the train may release the permit and move with the current of traffic. The train is governed by signal indications upon authority of the designated control

operator in the following manner: “Track permit granted (train) on (track(s)) between (point) and (point) released for movement with the current of traffic on (track) at (time).”

If track permit limits are not clear by the time permit expires, no movement may be made against the current of traffic without a train order authority or flag protection. Train movement with the current of traffic must be made at restricted speed unless it is known that there is no other track permit in effect in the same limits. If more than one track permit is in effect at any time within the same limits or overlapping limits, all trains or personnel involved must be notified and movements must then be made at restricted speed.

ABSOLUTE PERMISSIVE BLOCK

Rule 255. Governed by Block Signals. Within defined limits designated in the timetable or by special instructions as absolute permissive block (APB), train movements will be governed by block signals whose indications will supersede the superiority of trains for both opposing and following movements on the same track.

BLOCK SYSTEM RULES

Rule 300. Location of Signals. Block and interlocking signals, when viewed in the direction of movement, are indicated generally to the right of the track, but may be indicated to the left or above such track. Two signals may be bracketed and located on a supporting mast for displaying indications for two tracks. When viewed in the direction of movement, the signal to the right

governs the track to the right, and the signal to the left governs the track to the left.

Rule 301. What Signals Govern. Block signals, cab signals or both, govern the use of blocks, but unless otherwise specified do not supersede the superiority trains.

Interlocking signals govern the use of the routes of an interlocking, and as to movements within interlocking limits, their indications supersede the superiority of trains. Where a track is signaled beyond the interlocking limits in the direction of movement, the interlocking signal is also a block signal. The indications of block and interlocking signals do not dispense with the use or observance of other signals and rules whenever or wherever they may be required.

Rule 302. Improperly Displayed Signals or Absence of Lights. Except as shown in block signal, cab signal, and interlocking signal indications, the absence of a light, or the presence of a white light displayed where a colored or lunar light should be, on a block or interlocking signal must be regarded as the most restrictive indication that can be given by that signal. Except when the position of the semaphore arm is plainly seen, such indication will govern.

Rule 303. Where Stop Must Be Made. Trains must stop before any part of the engine or equipment being handled passes a signal that requires trains to stop. Within CTC territory or interlocking if a train overruns a Stop indication, warning must be given to other trains at once by radio, and flag protection must be provided immediately against possible conflicting movements. If a train overruns a signal that requires it

to stop, the train must stop and the fact must be reported to the train dispatcher.

Overlaps may be indicated by overlap signs. A train holding the main track at a meeting point must not pass the overlap sign location, nor open the switch within the overlap, until the opposing train has entered the block. A preceding train must clear the overlap as soon as practicable to avoid delay to a following train.

Rule 303(A). Changing Established Route. After a controlled signal has been cleared for an approaching movement, it must not be changed before a closely approaching train has passed it or has been stopped, except to avoid an accident. A conflicting route must not be established, nor should a conflicting movement be authorized, until communication has been established with the crew of an approaching train, and it is known that such train has stopped clear of the conflicting route. No attempt shall be made to establish a conflicting route into an occupied block or interlocking limits, nor will a conflicting movement be authorized, unless it is known to be safe to do so. The device controlling a switch, derail, movable point frog, or lock must not be operated when any portion of a train is on or closely approaching such equipment.

Rule 303(B). Protection if Damaged. If a signal or signal appliance fails to function as intended, or if damage occurs to the track or signal appliances, signals governing movements on routes affected must display Stop indication. No movements on such routes may be permitted until track and signal appliances have been examined and it is determined that movement can be made safely.

Rule 303(C). Protection While Repairing. Within CTC or interlocking limits, when a track, switch, movable point frog, derail, or signal is undergoing repairs, is disconnected, or the track is obstructed or removed from service, Stop indicators must be displayed for all routes affected. Controls involved must be blocked or marked in a manner to prevent their operation. Switches, movable point frogs, and derails must be spiked or otherwise secured in the required position if any movement is permitted over them before repairs are completed.

Rule 303(D). Authority to Proceed. Within CTC limits or at interlocking, except when granting track and time limits, control operators must not give hand signals or verbal permission authorizing movement beyond a Stop signal when a proceed indication can be displayed for the movement.

At interlocking, when a control operator gives hand signals, they must be given with a yellow flag or yellow light from a location and in such a manner that there can be no misunderstanding on the part of the crew members as to the signals or the train for which they are intended.

Rule 303(E). Reporting Delays. When a proceed indication has been displayed on a controlled signal, if movement cannot be made promptly, the control operator must be notified immediately.

Rule 303(F). Block Occupancy Indicator. Where block occupancy indicators are located individuals must observe the indication displayed before fouling circuit

or changing derail or main track switch. When an occupied indication is displayed, the main track must not be fouled, unless the movement is properly protected. An indication displayed by a block occupancy indicator is not authority for a train or engine movement and does not relieve individual from protecting movements as required by the rules.

Rule 304. Change of Indication. If a signal indication permitting a train to proceed changes to a stop indication before the train reaches the signal, the train must stop immediately. Such an occurrence must be reported to the train dispatcher.

Rule 305. Delayed Within a Block. If a train passes a distant signal displaying Clear or enters a block on a proceed indication, other than one requiring movement at restricted speed, and stops or reduces speed below 10 mph, it must proceed at restricted speed until the next signal indicates proceed and the track is clear to that signal.

One exception to this rule is that within CTC limits, a train may proceed at a speed not exceeding 40 mph and must be prepared to stop at the next signal until it can be seen that the next signal indicates proceed and the track is clear to that signal.

Rule 306. Clear Track Circuits. A train, engine or car left standing on sidings or other tracks must be clear of insulated joints at clearance points.

Rule 307. Most Restrictive Indication. If a signal fails to display its most restrictive indication when a block is occupied or when a switch protected by that signal is

changed from its normal position, the signal must be regarded as displaying its most restrictive indication. A flagman must be left to stop trains governed by such signal before passing it and inform the crew of the condition. Such protection must be provided until relieved by signal department personnel or by instructions from the train dispatcher. In all cases, the train dispatcher must be notified by the quickest means of communication.

Rule 308. Call Lights. When a call light is illuminated, any personnel observing it, except those on moving trains, must communicate at once with the control operator.

Rule 309. Standing on Sanded Rail. An engine without cars, an engine with less than three cars, or cuts of four cars or less, must not be allowed to stand on sanded rail.

Rule 310. Lining Controlled Signals. Controlled signals must be displayed at their most restrictive indication. Signals must be cleared sufficiently in advance of a movement to avoid giving an unnecessary restrictive indication. Remote control switches which have been reversed must be restored to normal position as soon as practicable after a movement has been completed.

Rule 312. Stop Indication. The following procedures apply when a train is stopped at a signal displaying a Stop indication and no conflicting movement evident:

(1) In CTC territory, unless a train has been granted track and time limits on track governed by that

signal, a crew member must immediately communicate with the control operator. Upon instructions " (*train*) — at (*location*) —, has permission to pass signal displaying Stop indication, " specifying route where applicable, the train may proceed at restricted speed. Before granting authority to proceed, the control operator must ensure there is no conflicting movement occupying, or authorized to enter, the track between that signal and the next absolute signal governing movement, or to the end of CTC where applicable. However, the following exceptions do apply:

- When there is a conflicting movement, if such movement has been stopped and the crew has been advised of the move to be made, authority may be granted to proceed. If the movement which has been stopped is later permitted to proceed, movement must be made at restricted speed until reaching the next governing signal.
- Where so equipped, the emergency push button located in the signal cabin at dual control switch locations will be used for the desired direction upon receipt of instructions from control operator. If a proceed indication is received, the train may proceed according to signal indication.
- If unable to communicate with control operator, the emergency push button may be used and if the signal changes to proceed indication, the train may proceed at restricted speed, regardless of more favorable signal indication. The train must keep a close lookout for men or track maintenance equipment on or

afoul of the track without flag protection until instructions are received from the control operator to proceed in accordance with signal indications.

(2) At manual interlocking, if no conflicting movement is evident, the crew member must immediately communicate with the control operator. Upon receipt of a proceed signal given with yellow flag or yellow light or verbal authority from control operator in words “ (train) at (location) has permission to pass signal displaying Stop indication, ” the train may proceed at restricted speed. Before granting authority to proceed, the crew member must know that there are no conflicting movements, that the route is properly lined, and that if movement is to be made into CTC territory, permission must first be obtained from CTC control operator.

Where authorized by special instructions, if unable to communicate with control operator, a train may proceed after occupying the track within interlocking limits, but clear of any conflicting route; after waiting the time specified in special instructions; and after a crew member has preceded movement and determined that route is properly lined.

When no control operator is on duty and interlocking cannot be operated by a crew member, the train may proceed after a flagman has preceded the train, examined the track for defects, determined that the route is properly lined and that protection is given on conflicting routes. If signals or derails are not in position to provide protection on conflicting routes, flag protection must be provided on such routes.

In addition, if the signal governs movement over a drawbridge, a crew member must make sure that the bridge is in proper position for the passage of trains. Movement out of interlocking limits into territory where track permits are authorized must not be made except as prescribed by Item (5) of this rule.

(3) At automatic interlocking movement will be governed by the instructions in release box. If there is a conflicting movement, the train must not proceed until such movement has passed or has stopped and an understanding has been reached between the crews.

(4) Within ABS limits, except where superiority of trains is superseded by signal indication or track permits are authorized, a train that is otherwise authorized to proceed, may proceed at restricted speed after stopping. However, if the signal governs movement from siding or other track to main track, if the block is occupied by a standing train, if the engine or cars and the switch to be used are within same block, or if Rule 94 is in effect, the main track switch must be opened. After waiting five minutes, the train may pass signal to enter the main track. Personnel attending the switch must remain at the switch during the 5-minute period.

(5) Where track permits are authorized or within APB limits, a crew member must immediately contact the train dispatcher. Upon instructions “ (train) at (location) has permission to pass signal displaying Stop indication, ” the train may proceed at restricted speed. Such instructions may be issued only when

there is no track permit in effect and there is no conflicting movement. If unable to secure authority from the train dispatcher, the train must not proceed until such authority is received or the signal displays a proceed indication.

Rule 313. Stop and Proceed Indication. At a signal displaying a Stop and Proceed indication the train will stop, then proceed at restricted speed; or the train may pass the signal at restricted speed without stopping for the following reasons:

- To leave main track when it is seen that the switch is lined for movement and the track is clear from signal to clearance point.
- To continue on main track when meeting or passing a train and it is known that the main track is clear to point at opposite end of siding where main track is fouled by train on siding.
- To permit an engine, with or without cars, to couple to its train or a standing cut of cars when intervening track is seen to be clear.
- To enter a switch which is not more than 1,000 feet beyond signal and the movement has received authorization from the employee in charge of the switch.
- In CTC territory, when a train is proceeding from the Stop indication on the authority of the control operator as prescribed by Rule 312. (This will apply to each succeeding signal displaying Stop and Proceed indication.)

- When a train is moving within track and time limits.

Rule 314. Movement from Signal Requiring Restricted Speed. When a train passes a signal requiring movement at restricted speed, movement must be made at restricted speed to the next governing signal or to the end of block system.

Rule 315. Hand Operation of Dual Control Switches. When authority has been obtained, or track and time limits have been secured from the control operator in CTC territory, or when permission has been obtained from the control operator in other territory to operate a dual control switch by hand, the switch may be operated as follows:

- Unlock switch lock.
- Place the selector lever in HAND position or remove the hand crank from holder.
- Operate the hand throw lever until the switch points are seen to move with movement of lever.
- Line the switch for the route to be used, or insert crank on shaft and turn until the switch is in desired position and turned as far as possible. Remove crank from shaft but do not return to crank holder.
- To return the switch to power, restore selector lever to POWER or MOTOR position and lock, or return crank to holder and secure it with the switch lock. After the switch has been restored to power, the control operator must be notified.

When the selector lever is in hand position or when the crank has been removed from the holder, signals governing movements over the switch will display Stop indication and will be superseded by hand signals. If possible, the engineer must be notified when the switch has been placed in hand operation and when it has been restored to power operation.

Rule 315(A). Dual Control Switches and Derails. Before proceeding from a Stop indication over a dual control switch or derail, the crew member must precede the movement and examine each dual control switch or derail to see that it is properly lined and that selector lever or hand crank, if present, is in the proper position. The crew member must remain at switch or derail until leading wheels have passed the signal governing movement over the switch or derail.

If the control operator cannot line the dual control switch or derail to the desired position, or the indication of the control machine does not show that the switch or derail is lined and locked, he must require the crew member to operate it by hand. The crew member must also ensure that the switch is properly lined, restored to power operation, and the control operator is notified. If the signal still indicates Stop and the control machine does not indicate that the switch or derail is properly lined and locked, repeat the procedure. After at least one unit or car has passed over the switch points or derail, it must be returned to power.

Rule 316. Reverse Movement. All reverse movements within a block must be made at restricted speed. On any track where APB is in effect, a reverse movement must not be made without flag protection or authority from the train dispatcher. On any track where CTC is in effect, a reverse movement must not be made without flag protection or authority from the control operator. Outside CTC limits, a train having passed beyond the limits of a block must not back into that block without flag protection, except where Rule 93 or Rule 94 is in effect or the movement is protected by a train order or a track warrant.

Rule 316(A). Reverse Movements at Interlocking. A reverse movement within the limits of an interlocking, or a forward movement after making a reverse movement, must not be made unless authorized by an interlocking signal indication or unless permission is given by the control operator. At automatic interlockings, reverse movements may be made if the train making the movement continuously occupies at least one car length of interlocking limits.

Rule 317. Entering Main Track at Hand Operated or Spring Switch. Within CTC territory, manual interlocking limits, or territory where Rule S-250 or Rule 252 is authorized, a train may enter the main track at hand operated or spring switch where there is no governing signal only on authority of control operator. The control operator must make sure that there are no conflicting movements before granting such authority.

In other territory within block system limits, the crew member or switch tender must open the switch and wait 5 minutes at the switch to establish block signal protection before the train enters the main track. The 5-minute wait is not required in the following circumstances:

- Where switch is equipped with an electronic lock.
- Where block occupancy indicator indicates block clear.
- When block signal governing movement to main track displays a proceed indication.
- When signals governing movements on main track indicate no train is approaching from either direction.
- Where block to be entered is occupied by a train, engine, or car that is either standing or moving away from the switch to be used.
- Outside yard limits when entering a main track for movement against the current of traffic.
- Where Rule 94 is in effect, provided movement is not made beyond Rule 94 limits for 5 minutes after main track circuit is fouled unless authorized by a proceed indication of a controlled signal.

Rule 318. Entering Block Between Signals. A train entering a block where there is no governing signal must move at restricted speed to the next governing signal.

Rule 319. Electrically Locked Switches and Derails.

Operation of switches and derails equipped with electric locks may be governed by general order, special instructions, or instructions posted near the switch. Within interlocking or CTC limits, personnel must not open door of case or unlock an electrically locked switch or derail without the authority of the control operator except to leave the main track or other track where CTC is in effect.

- The seal on the electric lock's emergency release must not be broken, nor the emergency release operated, without authority from the control operator or train dispatcher. The seal may be broken or release operated when communication has failed to—

- Permit a train to leave the main track.

- Permit a train to enter the main track if it has been authorized to do so.

When the seal has been broken or emergency release operated on an electric lock, the control operator or train dispatcher must be notified.

Rule 320. Stopping Before Block Occupied. When a train having passed a proceed indication of an absolute signal, stops less than one car length beyond such signal, it must not proceed again without complying with the requirements of Rule 312 unless such signal displays a proceed indication which can be seen clearly.

Rule 321. Suspension of Block System. The block system, or sections of it, may be suspended by train order or track bulletin when authorized by the

superintendent. The block system, or sections of it, must not be suspended until all trains and control operators in the affected territory have been notified by train order or track bulletin specifying the limits of the suspension.

Train orders or track bulletins issued suspending the block system must not be delivered to trains entering the affected territory until the affected limits are clear of trains, or until the train order or track bulletin has first been transmitted or delivered to all trains within the limits. When the block system, or sections of it, is suspended, the following will govern within the limits of suspension:

- Rules that apply to nonsignalled territory.
- Train order or track bulletin must be issued prescribing speed restrictions that will ensure safety, but not to exceed 59 mph for passenger trains and 49 mph for other trains.
- Block and interlocking signals will be disregarded whether extinguished or illuminated, except where signals govern movements over railroad crossings at grade or drawbridges; or, where signals are connected with track side warning detectors.
- Trains must approach signals and each end of limits suspended at restricted speed. Trains leaving the limits and moving into block system territory, must move at restricted speed until reaching the first signal in service beyond the limits. Signals governing

movements over railroad crossings at grade and drawbridges must be regarded as displaying Stop indication, regardless of aspect displayed, unless train order or track bulletin specifies that signals are in service

— If the crew has not been informed that signals governing movements over railroad crossings at grade are in service, flag protection in each direction on conflicting routes must be provided before proceeding over crossing. Crew must not rely on operation of time release or key controller as adequate protection while moving over crossing unless otherwise instructed.

- On single track, outside TWC limits, train order Form S-A must be used to establish meeting points between opposing trains.

- One multiple main tracks, a train order or track bulletin must designate the track or tracks upon which the block system is suspended and a train order or track bulletin must be issued to each train specifying the track to be used. A train must not make a reverse movement on that track, or cross over to or foul another main track unless a train order or flag protection is provided.

- Where automatic highway protection devices have been affected, the action to be taken at these locations must be specified by a train order or track bulletin.

- Remote control switches on the main track must be lined and locked for main track movement, switches equipped with selector levers locked in hand position, other remote control switches spiked, and all personnel

concerned must be notified. Until so informed by the train dispatcher, trains must stop and inspect remote control switches and foul circuit, being sure they are properly lined before passing over. A train order or track bulletin must be issued specifying the position in which remote control switches at the end of double track or end of multiple main tracks are to be left lined. If a conductor or engine foreman is notified concerning the position of remote control switches, those switches must be left in that position after having been used.

- Spring switches that are to be removed from service must be spiked and all personnel concerned must be notified. Trains must be prepared to stop when approaching facing point spring switches left in service. It must be known that the switch is properly lined before proceeding over switch.

- When the block system has been restored to normal operation, all trains within the affected territory must first be so notified by train order or track bulletin before authorizing a train to enter the limits and be governed by an operative block system.

Rule 322. Next Governing Signal. Except when movement at restricted speed is required by rule or by indication of previous signal, the indication of the next signal in advance may be complied with when the aspect can be clearly seen and it is known such aspect governs the track on which the movement is being made or is to be made.

Rule 323. Leaving Equipment in Interlocking
Engines or cars must not be detached and left standing entirely between the opposing interlocking signals governing movements at a railroad crossing at grade.

RULES APPLICABLE ONLY WITHIN CENTRALIZED TRAFFIC CONTROL LIMITS

Rule 350. Movements Authorized by Signal Indication. Within defined limits on designated tracks specified in the timetable or by special instructions, train movements will be authorized by block signals whose indications will supersede the superiority of trains for both opposing and following movements on the same track.

The movement of trains will be supervised by the train dispatcher, who will issue the necessary instructions.

Rule 350(A). Authority to Enter CTC. A train must not enter any track where the CTC is in effect unless there is a governing signal displaying a proceed indication or authority has been obtained from the control operator. Authority may be granted to enter such track without track and time limits in the words "Authority to enter (track) at (location) granted (train) for movement in (direction) ." After entering the track, the train is authorized to move only in the direction specified.

Rule 350(B). Clearing Through Hand Operated Switches. A train must not clear any track where CTC is in effect at a hand operated switch which is not equipped with an electric lock except in the following instances:

- Where the maximum authorized speed on a main track or a controlled siding equipped with intermediate signal does not exceed 20 mph.

- Where the maximum authorized speed on a controlled siding not equipped with intermediate signal does not exceed 30 mph.
- Where a signal is provided to govern movement to a track where CTC is in effect.
- When such switch is kept open.

Rule 351. Track and Time. A train may occupy a track or tracks within the specified limits for time periods authorized by control operator in the words: "Track and limits granted on (track) between (point) and (point) (time) until (time)." Track may be used in either direction within specified limits until the limits have been cleared or released without flag protection; but all movements must be made at restricted speed.

When the limits are designated by a switch, such limits extend only to the signals governing movement over the switch. Except at interlocking, trains granted track and time limits, after stopping, may pass a signal displaying a Stop indication to enter the limits. Without further authority they may pass signal without the limits displaying Stop and Proceed indication without stopping. Requirement for inspection of spring switches and remote control switches must be observed. Track and time limits do not authorize occupancy of main track within interlocking limits.

The track specified must be continuously occupied or a switch left open within the limits on such track. If for any reason, the track specified is cleared before the time stated, the track must not be occupied again, or fouled, without authority from the control operator.

Trains must be clear of the limits, or track and time released, before expiration of the time granted. If more time is required, authority must be obtained from the control operator before the authorized time limit has expired

If no other person has been granted track and time within the same limits, track and time may be released by a train while within the limits to move in a specified direction. Track and time will then be governed by signal indications upon verbal authority of the control operator in the words "Track and time limits granted (train) on (track) between (point) and (point) released for movement (direction) at (time) ." The control operator must be notified when the trains are clear of the limits, except when the control operator authorizes a train to leave the limits by signal indication. Limits will be considered released when the train has passed such signal and is clear of the limits.